

Chapter 5 Project Design

5-1

Youth / School Age Center

A. Relationship of Spaces

Table 5-1 and 5-2 describe the generally preferred functional relationships of spaces within the center. Specific project requirements may require alternative relationships.

1. Operational Adjacency

To maximize the efficient operation of the facility, the spaces shall be arranged to result in the proximity's shown in Table 5-1. These spatial affinities are derived directly from the zoning issues discussed in Chapter 2, "Initial Planning."

2. Access Controls

To provide efficient but secure user circulation in the facility, the spaces shall be arranged for accessibility and supervision as shown in Table 5-2.

Table 5-1:
Operational Adjacencies

	Lobby	Snack/Vending	Restrooms	Break/Training Room	Kitchen	Gymnasium	Gymnastics/Instruction	Pre-Teen	Teen	Activity Room (3)	School Age Coordinator	Coordinator/Counselor	Control/Checkout Station
School Age Coordinator	N	NA	N	N	NA	NA	NA	NA	NA	NA		A	N
Business/Transaction Counter	A	NA	N	N	NA	NA	NA	N	N	N	A	A	A
Coordinators/Counselors	N	NA	N	A	NA	NA	NA	N	N	N	A		A
Control/Checkout Station	A	A	N	N	NA	N	N	N	N	NA	N	N	
Activity Rooms (3)	N	N	A	NA	N	A	A	NA	NA		N	N	N
Pre-Teen Room	N	N	A	NA	N	A	A		NA	NA	N	N	N
Teen Room	N	N	A	NA	N	A	A	NA		NA	N	N	N
Gymnasium	NA	N	A	NA	NA		A	N	N	N	N	N	N
Gymnastics/Instruction	NA	NA	N	NA	NA	A		N	N	N	NA	N	N
Music Room	N	NA	N	NA	NA	NA	NA	N	N	N	NA	NA	N
Break/Training Room	N	NA	N		NA	NA	NA	NA	NA	NA	N	A	NA
Kitchen	N	A	N	N		NA	NA	N	N	N	NA	N	NA
Lobby		N	N	N	NA	N	N	N	N	N	N	N	N
Snack/Vending Space	N		N	N	A	N	N	N	N	N	N	N	NA
Restrooms (4)	N	N		N	N	N	N	N	N	N	N	N	N

A = shall be adjacent

N = shall be near each other

NA = not required to be adjacent

B. Environmental Influences

The design shall be suited for the specific climate of the base. Table 5-3 describes the design elements and arrangements generally preferred for various environmental conditions. Those elements and arrangements, or equivalent design provisions appropriate for the specific climate and site, shall be provided where they result in project cost savings.

1. Hot-Dry Climate

Locations where the dry bulb temperature is at least 93°F for 155 or more hours during the 6 warmest months of the year, and where the annual amount of rainfall is 10 inches (3.94 cm) or less are defined as hot-dry climates.

2. Warm-Humid Climates

Locations where the wet bulb temperature is at least 67°F for 800 hours or more during the 6 warmest months of the year are defined as warm humid climates.

3. Temperate Climate

Locations where the dry bulb temperature is at least 80°F for 350 hours or more during the 6 warmest months of the year are defined as temperate climates.

4. Cold Climates

Locations where the dry bulb temperature is at least 80°F for less than 350 hours during the 6 warmest months of the year are defined as cold climates.

Table 5-2:
Access Controls

	User Access	Visual Monitoring	Exterior Access
School Age Coordinator	S		NO
Business/Transaction Counter	S		NO
Coordinators/Counselors	SP		YES
Control/Checkout Station	S		NO
Activity Rooms (3)	SPV	1,2	YES
Pre-Teen Room	SP	1,2	NO
Teen Room	SP	1,2	NO
Multipurpose Room	SP	1,2	YES
Gymnastics/Instruction	SP	1,2	NO
Music Room	SPV	1,2	NO
Break/Training	S		NO
Kitchen	SP		NO
Lobby	SPV		YES
Snack/Vending Space	SPV		YES
Restrooms (4)	SPV		NO

S = Staff Only
P = Participants
V = Visitors

1 = Of the activity itself
2 = Of entrance to activity

Chapter 5 Project Design

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Youth / School Age Center

Table 5-3:
Environmental Considerations

H = Hot-Dry

W = Warm-Humid

C = Cold

T = Temperature

	Maximize direct solar gain and minimize heat losses	Balance solar heat gain on a seasonal basis	Reduce direct solar and conductive heat gains	Minimize solar sky and ground reflectance	Moderate temp. extremes (daily and/ or seasonal fluctuations)	Reduce cold air infiltration (protect against prevailing winds)	Use air movement to promote evaporative cooling	Promote natural convective loops
Optimize ratios of exterior wall surfaces to interior floor space	C		H		HC			
Orient the building along the east-west axis	C	T	HW		HC		W	W
Openings facing the afternoon sun	Maximize C							
	Minimize		HW		H			
Provide shading at openings		T	HW	C	H			
Place use spaces adjacent the:								
West-facing exterior wall			H	W	H			
Prevailing winter wind-facing wall	C	T				CT		
Consider berming earth against building perimeter wall	C		HW		H	CT		
Locate windows for ventilation during warmest months								
Provide ground cover and minimize paved surfaces adjacent to building				THW			THW	W
Use low conductive materials for the building envelope	C		W					
Use light reflective finishes and colors on roof and exterior walls			HW					
Use dark finishes and colors for the roof	C						H	
Consider shaded landscaped courtyards and garden entrances			HW					
Use concrete or masonry materials for:								
Interior surfaces exposed to sunlight	C							
Exterior wall construction			H					
Provide on site:					H			
Heavy vegetation			W		H		H	
Water features (reflecting pools)					H		H	

C. Organization Principles

The design shall be formed by creatively organizing the components of the project on the basis of an architectural concept for the specific site. The diagrams in Figure 5-1 describe sample concepts based on organization principles that fulfill the design objectives.

Most evident is adherence to those form-giving objectives requiring a compact circulation scheme, access and environmental zones, and controlled daylighting. The specific project requirements will vary from these examples, requiring additional analysis for the particular design.

Figure -: Organization Principles

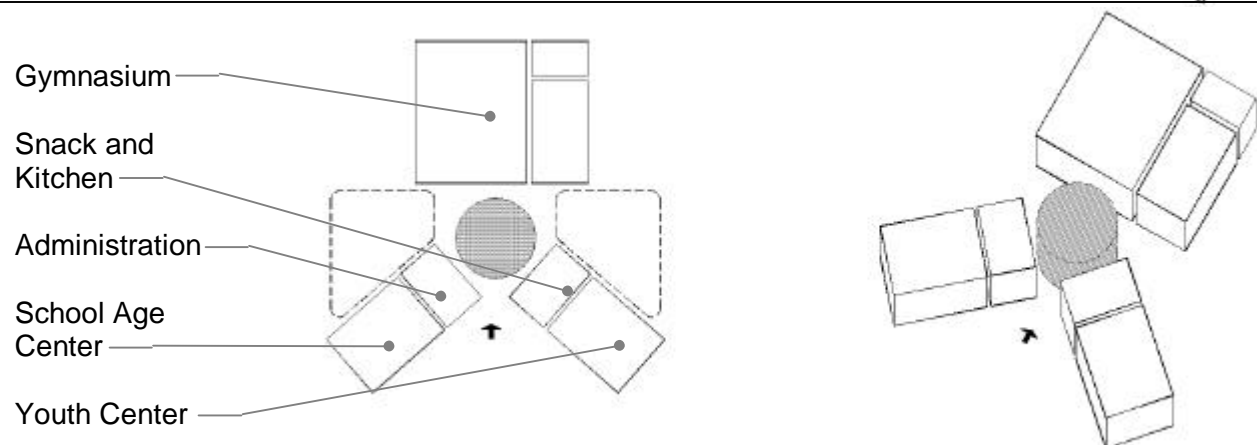
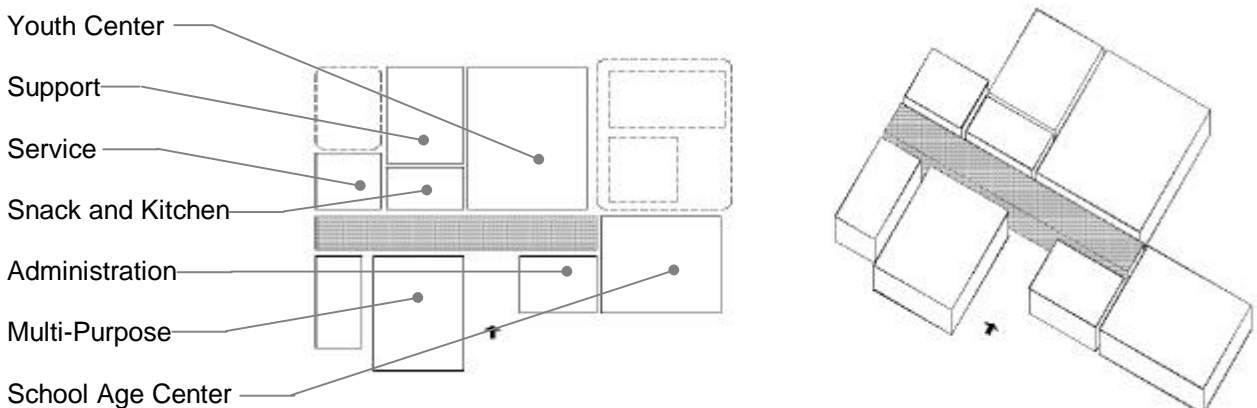
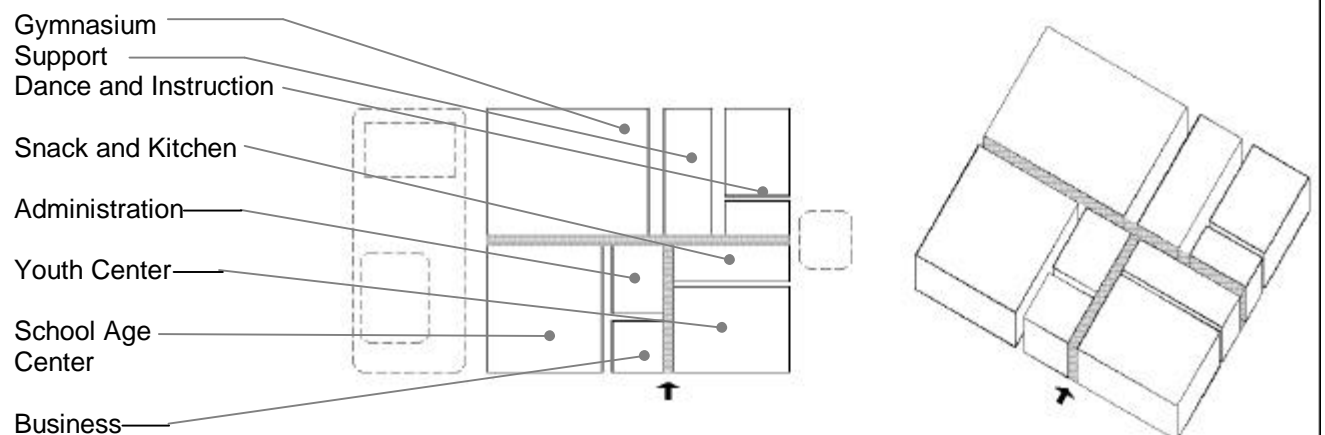


Table 5-4:
Component Spaces

		Small Center		Medium Center	
		ft. ²	m ²	ft. ²	m ²
Administrative Spaces	Administrator's Office	100	9.3	100	9.3
	Business/Transaction Counter	200	18.6	250	23.3
	Coordinators/Counselors	300	27.9	300	27.9
	Control/Checkout Station	100	9.3	150	14.0
	Storage	50	4.6	75	7.0
	Subtotal	750	69.7	875	81.5
School Age Spaces	Activity Rooms (2) @ 12 students per instructor	420	38.9	840	77.2
	Development Room (1)	420	38.9	840	77.2
	Subtotal	1260	116.7	2520	231.6
Youth Center	Pre-Teen Room	300	27.9	400	37.2
	Teen Room	300	27.9	400	37.2
	Subtotal	600	55.8	800	74.4
Shared Spaces	Multipurpose Room	3999	371.3	5880	554.0
	Dance Room/Training Room	1559	144.5	1559	144.5
	Gymnastics	1559	144.5	1559	144.5
	Computer Room	200	18.6	300	27.9
	Music Rooms (2)	100	9.3	150	14.0
	Storage	1000	92.6	1250	115.7
	Parent Waiting	200	18.6	250	23.3
	Subtotal	7656	836.5	9737	1037.9
Support Spaces	Staff Lounge/ Training	150	14.0	200	18.6
	Kitchen	250	23.3	300	27.9
	Subtotal	400	37.3	500	46.5
Public Spaces	Lobby	200	18.6	250	23.3
	Snack/Vending Space	250	23.3	300	27.9
	Restrooms (4)	220	20.4	300	27.9
	Subtotal	1330	123.5	1750	162.8
	TOTAL	11,996	1,239.5	16,182	1,634.7
Maintenance & Mechanical		550	51.2	700	65.1
Outdoor Equipment Storage		75	7.0	150	14.0

**Table 5-5:
General Size Ranges**

		Minimum Space Requirements		Required or Optional	Space per Person	
		ft. ²	m ²		ft. ²	m ²
Administrative Spaces	Youth Director	140	13.0	R	140	13.0
	Business/Transaction Counter	200	18.6	R	100	9.3
	Training & Curriculum Specialist, TNC	100	9.3	R	100	9.3
	Teen Coordinator	100	9.3	R	100	9.3
	Youth Sports Director	100	9.3	R	100	9.3
	Programmer	100	9.3	R	100	9.3
	Breaker/Training	200	18.6	R	30	2.9
	Control/Checkout Station	100	9.3	R	100	9.3
	Storage	50	4.6	R	–	–
	Unisex Restroom	75	6.9	R	–	–
School Age Spaces	Activity Rooms (3) @ 24 students	840	78.1	R	35	3.5
	School Age Coordinator	140	13.0	R	35	3.5
	Storage	100	9.3	R	–	–
Youth Center	Pre-Teen Room	1650	153.2	R	35	3.5
	Teen Room	1650	153.2	R	35	3.5
	Storage	100	9.3	R	–	–
Shared Spaces	Multipurpose Room	7105	660.25	R	–	–
	Gymnastics and Instruction Rooms	1800	167.1	R	–	–
	Equipment Storage	200	18.6	R	–	–
	Music Rooms (2)	100	9.3	R	100	9.3
	Computer Room	200	18.6	O	20	1.9
	Storage	1000	92.6	R	–	–
Support Spaces	Kitchen	200	18.6	R	–	–
	Kitchen Storage	80	7.4	R	–	–
	Outdoor Storage	200	18.6	R	–	–
Public Spaces	Lobby	200	18.6	R	20	1.9
	Snack/Vending Space	250	23.3	R	25	2.3
	Restrooms (4)	220	20.5	R	25	2.3
	TOTAL	19,640	1,824.8			